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Summary of key findings

1.1 Introduction to the project

This document reports the key findings of the Erasmus+ KA2 Strategic Partnership Autism Spectrum Disorder – Empowering and Supporting Teachers (ASD-EAST) (Grant 2018-1-UK01-KA201-047872). ASD-EAST was established to begin to address an identified shortfall in teacher knowledge and training regarding Autism Spectrum Disorder (ASD) and focused on developing appropriate training to support teachers to effectively include learners with ASD in education within Central/Eastern Europe and the Balkans.

The project was carried out between September 2018 and August 2020. Its specific focus was on the development of training for specialist primary age range teachers (in both special school and mainstream/inclusive settings). The materials were developed and tested in three counties: Croatia, the Republic of North Macedonia (hereafter referred to as North Macedonia) and Poland.

1.2 Evaluation methodology

The project was evaluated using a combined process and outcome methodology (Royce et al., 2016), utilising both quantitative and qualitative methods of data collection and analysis. Evaluation activity in the project was undertaken by the partners within the evaluation workstream:

- Centre for Education and Research, University of Northampton, UK (project coordinator)
- Faculty of Education and Rehabilitation Sciences, University of Zagreb, Croatia (workstream lead)
- Pedagogical University of Krakow, Poland
- Autism Macedonia Blue Firefly, North Macedonia.

1.3 Initial mapping

Initial mapping activity (O1) was undertaken to identify good practice in teacher education in ASD and to identify teachers' knowledge confidence and training needs. Teachers in Croatia, North Macedonia and Poland were surveyed (n = 294) and six focus groups were carried out during autumn/winter 2018-19. Key findings were:

- Teachers held **widely differing** and sometimes **incorrect opinions** regarding ASD, with mainstream teachers being most likely to have **incorrect** beliefs or **pessimistic** views.
- Teachers reported a **very low level** of **previous training** in – or **confidence** in using – many common 'autism-friendly' teaching methods.
- Despite this, the majority of these methods were **in use** within the three countries. This suggests that the majority of teachers are using such methods without training and without feeling confident in using them.
- There was high agreement (almost 90%) that **teachers would benefit from training**, and a particular desire was expressed for **practical strategies**.

All of this supported and validated the need for the project to be undertaken.



1.4 Evaluation of ASD training curriculum and materials

Findings from the mapping phase informed the development of the ASD-EAST Curriculum (O2) and Training Materials (O3). Twelve hours of training was developed, and the materials were piloted with teachers (n = 259) in Croatia, North Macedonia and Poland in autumn/winter 2019-20. Pretraining, post-training and follow-up questionnaires were administered, and follow up interviews were undertaken. These identified that:

- There was **high satisfaction** with the **trainings** with 92.5% of respondents stating that their expectations were fulfilled
- There was high satisfaction with the **content**, in terms of the balance between **theory and practice, examples and relevance**
- Over 90% of participants reported learning **methods that they could use straight away**
- Extremely high satisfaction was reported regarding the **delivery** of the training and the **trainers**
- Over 95% of participants would **recommend** the training to others, and it was also felt that the training would be **relevant for a wider range of participants**

These are **extremely positive findings** which identify the **importance** and **value** of the project.

1.5 Further evaluation activity

Feedback from the project's four virtual multiplier events, which were attended by over 1,300 delegates, was also extremely positive. It was felt by 98% of delegates who completed evaluations (n = 344) that the materials would provide teachers with increased knowledge and useful strategies. The same percentage felt that the materials could be used across other EU countries.

The project was also evaluated with regard to its reach and effectiveness of dissemination activity. The workshops have had an indirect impact across 88 schools, 3,867 teachers and 38,861 children. The multiplier events had excellent reach, with over 1,300 delegates from over 20 countries. Similar effective reach was achieved by the project website. This was accessed by more than 5,000 visitors from 81 countries. The project's e-newsletter, produced six times during the project lifespan, was subscribed to by 1,837 individuals; and further audiences were reached via YouTube and Twitter. Eleven physical and virtual academic conference presentations were given during the project lifetime: more would have occurred but for the impact of the Covid-19 pandemic.

Overall this demonstrates the commitment of the project team to engage with the stakeholder audiences identified within the proposal – specialist teachers, other education professionals, policy/decision-makers, autism/disability community and the wider public – and evidences the success of its strategies. Again, these are positive findings that show how the project team has worked to carry out the project in line with the proposal.

1.6 Conclusions and recommendations

The ASD-EAST project was **extremely successful**.

It developed a **high-quality curriculum and materials** based on teachers' identified training needs.

It delivered training to 259 specialist teachers in Croatia, North Macedonia and Poland: this is **more than double** the number of teachers for which we initially planned.

Teachers have been **overwhelmingly positive** regarding the curriculum and materials: participation in ASD-EAST training has **improved** their **knowledge** and **confidence**, and they identify the **value** of such training for teachers, other professionals and parents alike.



As a result of undertaking this project we recommend that:

- Appropriate Initial Training, Continuing Professional Development and support for teachers should be provided across Europe
- It should be ensured that accurate understanding of autism and individualisation of learning and teaching are central to training provided
- Training should be designed to ensure a holistic approach, and to provide teachers with the skills to work effectively with families and other professionals.

These recommendations are developed further within the ASD-EAST Policy Recommendations (O6).



Introduction to the project

2.1. Autism Spectrum Disorder and education

Autism Spectrum Disorder (ASD) is a lifelong condition affecting approximately 1% of the population (Baird *et al.*, 2006). ASD impacts all aspects of the individual's experience, including how they learn (Dawson *et al.*, 2008). Children and young people with ASD share common education needs with all others and are entitled to appropriate education. However, they have specific and special needs regarding the characteristic difficulties in autism related to communication, social understanding, inflexibility and sensory processing issues. Education has been identified as a key intervention for this group, and meaningful access to effective education is crucial (Simpson *et al.*, 2011).

Due to the diverse nature of the autism spectrum, there is no single educational intervention that is effective or appropriate for all, and therefore teachers need a range of skills and strategies (Iovannone *et al.*, 2003). However, many teachers do not have access to appropriate training (Morrier *et al.*, 2011). Providing such education is challenging in all settings.

Research has identified that educational provision for children with ASD is unequal and inequitable, and that while there are pockets of good practice there are also significant challenges (Charman *et al.*, 2011; Jones *et al.*, 2008; Daly & Ring, 2016). Problems exist regarding the skills, knowledge and expertise of educators working with these children across the range of educational settings, including both special and mainstream education, with training being fragmented and often not informed by research (Marshall & Goodall, 2015; Sekušak-Galešev *et al.*, 2015). There is also a lack of evidence regarding the impact of providing training regarding ASD on teachers' subsequent practice (Alexander *et al.*, 2015).

Autism awareness is patchy and often poor across Europe in general and within Central/Eastern Europe & the Balkans in particular (Ombudsman of the Republic of Macedonia, 2015; Suchowierska & Walczak, 2013; Trnka & Skočić Mihić, 2012). A particular need for support has been identified within Eastern Europe and the Balkans (Bukvić, 2014; Starczewska *et al.*, 2011; Trajkovski, 2017). While there is undoubted good practice in some settings, there are also significant training and developmental needs.

2.2. Autism Spectrum Disorders: Empowering and Supporting Teachers – the (ASD-EAST) project

ASD-EAST was established to begin to address this shortfall and focused on developing appropriate training to support teachers to effectively include learners with ASD in education within this region. Funding was obtained from the European Commission's Erasmus+ programme, and the two-year project commenced in September 2018, with the aim of empowering specialist educators in three countries (Croatia, Poland and North Macedonia) to support effective inclusion of children with ASD in education, by providing these educators with appropriate skills, knowledge, strategies and locally-appropriate training.

This project supported the implementation of national education policy within these countries such as:

- Croatia's National Strategy for Education Science and Technology (2014)
- the Macedonian Laws on Primary and Secondary Education (1995)
- and Poland's Law on School Education (2018) and the Provisions Introducing the Law on School Education (2018).



In addition, it addresses pan-European policy and goals such as Empowering Teachers to Promote Inclusive Education (European Agency for Special Needs and Inclusive Education, 2015) and Inclusive Education for Learners with Disabilities (European Parliament, 2017).

The ASD-EAST project united a partnership of schools, academics and governmental/non-governmental organisations from Belgium, Croatia, North Macedonia, Poland and the United Kingdom to:

- undertake an initial mapping exercise, identifying both country-specific and Europe-wide good practice, as well as areas needing development with regard to the effective educational inclusion of children with ASD (with a specific focus on Croatia, North Macedonia and Poland)
- develop locally appropriate training and materials for specialist educators to support the educational inclusion of children with ASD (in both special education and mainstream/inclusive settings)
- use these materials to pilot the training with specialist educators from both special and mainstream across Croatia, North Macedonia and Poland
- evaluate the appropriateness of the materials and the impact of the training on teachers' skills and subsequent practice
- share the programme and materials with stakeholders (both within these three countries and more broadly across Europe) and to make recommendations to policy-makers with the intention of improving teacher-training in ASD in the longer term.



3. Initial mapping activity

3.1. Initial mapping

To inform the development of the ASD-EAST training curriculum and materials, initial mapping activity was undertaken as discussed below.

3.2. Literature review

An initial literature review was undertaken by the University of Northampton (Lessner Lištiaková & Preece, 2019). This identified that studies documenting teacher training in autism-specific educational practices is relatively sparse. Nonetheless a number of key messages are clearly identified.

- While policy and legislation across the globe speak of the importance of inclusion, it is clear that this political and philosophical ambition is often inadequately resourced, and that teachers often lack the knowledge, skills, and confidence to translate such inclusion into practice.
- Evidence of good practice exists, and such evidence must be developed and shared effectively with teachers. At the same time, there are a wide range of challenges to the effective inclusion of students with ASD.
- The literature clearly identifies key issues and the key skills required by teachers – e.g. in collaboration, and in managing behaviour and teaching social and communication skills – and such topics will be crucial in any programme of training for teachers.
- Though some studies focus on single approaches, the overwhelming body of research identifies the need for teachers to be skilled in a spectrum of approaches, and to have a ‘toolbox’ of strategies, to appropriately address the spectrum of need in ASD.
- While underpinning knowledge about ASD and an understanding of theory is identified as important, teachers appreciate ‘hands on’ training, and training that provides them with practical strategies to use in their day to day pedagogic activity.

The findings of the literature review are significant in part because they demonstrate the lack of previous research within the region in which the ASD-EAST project is being undertaken: Central/Eastern Europe and the Balkans. This literature review informed the development of a survey tool, to identify the knowledge, attitudes and confidence regarding ASD of specialist teachers in the project countries (3.3).

3.3. Survey and focus groups

This part of the mapping activity was undertaken by the academic partners within the ASD-EAST project (the University of Zagreb, the Pedagogical University of Kraków, Autism Macedonia Blue Firefly and the University of Northampton during autumn/winter of 2018-19. Both quantitative survey data and qualitative focus group data were gathered from both mainstream and special education teachers.

The quantitative dataset comprises data from 294 teachers:

- 103 (35%) from Croatia
- 73 (25%) from North Macedonia
- 118 (40%) from Poland.

One hundred and thirty-seven (47%) worked in mainstream schools, while 157 (53%) worked in special education systems.



The qualitative dataset comprised of participant from six focus groups, one with teachers from mainstream schools and one with teachers from specialised settings in each country. Key findings were as identified below.

3.3.1. Previous training

Analysis of the dataset revealed that there were **differences** in both initial and further training about ASD, both between countries and between mainstream and special school teachers. In general, mainstream teachers had received less training.

3.3.2. Knowledge regarding characteristics of autism

Teachers held a **wide range of views** regarding the characteristics of autism, with many significant differences regarding characteristics and behaviours. This identifies a need for consistent training.

3.3.3. Attitudinal differences

Responses to attitudinal questions revealed that there were **differences in attitude** towards both the nature of autism and the needs and potential of children with autism between the three countries. There were also statistically significant differences between mainstream and special school teachers. In general, mainstream teachers were more likely to hold **incorrect beliefs** – such as that children could ‘grow out’ of ASD. They were also more likely to hold **pessimistic views** regarding the education of children with ASD, whilst downplaying the importance of specialised approaches.

3.3.4. Knowledge about methods used in autism

Analysis identified a **very low level of previous training** – or **perceived competence** – in any methods. Special school teachers reported slightly higher levels of training and competence than mainstream teachers, but this remained extremely low.

3.3.5. Extent of use of different methods

Despite the low levels of training and perceived competence, the majority of these approaches were **in use** within the three countries. There was a higher use of established approaches in ASD in special schools than in mainstream schools. In many mainstream schools, ASD-specific approaches were never used. This suggests that **many teachers are using specific approaches either without training or without feeling competent in their use.**

3.3.6. Teachers’ confidence

Teachers expressed **low levels of confidence**. More than half of all teachers were confident in only two of 22 identified domains of working. Special education teachers were generally more confident than their mainstream counterparts in working with autism. More than 50% of mainstream teachers did not express confidence in any of the 22 domains, while more than 50% of special educators were confident in only six of the 22 domains.

3.3.7. Teachers’ training needs

Within the quantitative survey, there was high agreement (almost 90%) that teachers would **benefit from training**. Training with regard to theoretical information was identified as least important but was still seen as relevant by more than half of teachers. Practical strategies, particularly those relevant to teachers’ own settings were identified as of high importance, as was supervision and the acquisition of tools and resources. Teachers expressed a strong desire to undertake self-experiential learning.



In the focus groups, teachers reflected upon their need for **further training** in **specific intervention areas**, mainly in addressing challenging behaviour, communication and social skills, and sensory needs of children with ASD. Mainstream teachers stated that they wished to learn how to use **strategies** in the classroom, adapt and individualise their teaching. Teachers in special settings were interested in methods or interventions focusing on specific areas of need of their students. Participants in all focus groups identified their need to improve communication and collaboration with parents and other professionals.

3.3.8. Challenges in supporting students with ASD

Challenges specialist teachers faced in their work with children with ASD were similar in all three countries. Both in mainstream and special settings, specialist teachers felt the main issue is managing students' challenging behaviour. Teachers in mainstream schools found it difficult to adapt lessons and the classroom environment. They also felt a lack of clear criteria or guidance for inclusion of students with ASD into mainstream classrooms.

Teachers in special settings perceived addressing the complex needs of their students as the main challenge in their work, followed by the difficulty to adapt the physical environment of their schools and classrooms to suit these complex needs.

Across settings and countries, specialist teachers found it difficult to collaborate with parents and to communicate about their expectations and involvement in the educational process.

Collaborating with other professionals presented a challenge too. Specialist teachers felt under pressure from high workload and carrying the responsibility for inclusion of students with ASD in mainstream classroom and felt unsupported by class teachers and teaching assistants due to their lack of knowledge and understanding. Specialist teachers in special settings mentioned that communication with medical doctors and psychologists is insufficient not providing them with enough necessary information about the needs of children with ASD.



4. Evaluation methodology

4.1. Overall project methodology

This overall project is being carried out utilising a collaborative, action-based and stakeholder-empowering methodology, and is being undertaken in four overlapping phases:

- Phase I: Mapping activity (9/2018 – 3/2019)
- Phase II: Development of curriculum, programme and materials (1/2019 – 9/2019)
- Phase III: Training activity and evaluation (10/2019 – 3/2020)
- Phase IV: Dissemination and development of policy recommendations (2/2020 – 8/2020)

4.2. ASD-EAST curriculum, training materials and workshops

Within Phase II, the ASD-EAST Teacher Training Curriculum (O2) and Teacher Training Materials (O3) were developed by partners with particular expertise in these areas. A programme of twelve hours training (6 x 2-hour modules) was developed, covering the following topics:

- Module 1: Communication
- Module 2: Emotional regulation
- Module 3: Social skills
- Module 4: Sensory Needs
- Module 5: Modifications and adaptations
- Module 6: Challenging behaviour

The materials were developed in English and translated for use in the Croatia, North Macedonia and Poland. Materials were differentiated for mainstream/inclusive and special school settings. Pilot training events for mainstream/inclusive and special school teachers were organised to test the materials.

In Phase III of the project, the pilot training events were held (between October 2019 and January 2020). Two trainings (one each for mainstream/inclusive and special school teachers) were held in Zagreb and Kraków. In addition to the two planned events in Skopje, an additional training was held for teachers from Special School Zlatan Sremec, a North Macedonian partner. In total, 259 teachers attended ASD-EAST trainings.

4.3. Evaluation methodology

The training materials and the training process were evaluated using a combined process and outcome evaluation methodology (Royce *et al.*, 2016). This included the use of both quantitative and qualitative methods.

4.3.1. Quantitative methods

It was identified in the proposal that a minimum of 20 specialist teachers from mainstream/inclusive schools and 20 teachers from special schools in each of the three countries would participate in ASD-EAST training workshops – a total of six training events and 120 participants. In practice, seven training events were held, as an additional training was held for staff from Special School Zlatan Sremec in Skopje, North Macedonia. In total, 259 teachers participated in the trainings, more than double the number proposed: 121 were from mainstream/inclusive settings and 138 from special schools. Participants were self-selecting.



Pre-workshop questionnaires, post-workshop questionnaires and follow-up questionnaires (distributed approximately three months after training) were distributed to all participants, gathering:

- demographic data
- data regarding knowledge and skills regarding ASD
- data regarding their expectations of the training (pre-training)
- data regarding what they learned, their competence and confidence (post-training/follow-up)
- data regarding implementation of strategies and impact of attendance (follow-up).

4.3.2. Qualitative methods

Initial willingness to participate in interviews (and – where appropriate – dimensional sampling) was used to identify four or five participants per training (n = 24-30) to be interviewed three months after the training. Through semi-structured interviews, data were collected regarding:

- teachers' understanding of autism and the education of children with autism
- their understandings and conceptualisation of inclusion
- their experience of the training
- the impact (if any) of the training.

Focus groups of local training teams in each of the three countries were also held, to gather data regarding trainers' experiences, their views regarding the content and process and differentiation of the training and their perceptions regarding the participants' experiences/benefits for participants. These informed the differentiation of the training materials and the development of the trainer notes to accompany them (ASD-EAST Intellectual Output O5); these focus groups are not reported upon in this evaluation report.

4.4. Further data collection

Further data regarding the project were collected using a range of methods, such as:

- quantitative methods, including feedback regarding the project and materials collected from participants at the projects four virtual online conferences held during June 2020; and data regarding the reach of project tools such as e-newsletters and the ASD-EAST website
- qualitative methods, such as trainer focus groups.

These are discussed further in section 7.



5. Results – quantitative data collection

5.1. Demographic details regarding training participants

5.1.1. Country and education system

A total of 259 teachers attended the ASD-EAST workshops held between October 2019 and January 2020. Of these, 121 (46.7%) came from mainstream and inclusive schools, while 138 (53.3%) came from special schools. Fifty-seven teachers attended trainings in Croatia (22% of respondents), 112 (43.2%) in North Macedonia and 90 (34.7%) in Poland (see Table 1).

Attendance of mainstream and special education teachers by country was as follows:

- Croatia: 25 teachers (43.9%) came from mainstream/inclusive schools; 32 teachers (56.1%) came from special schools
- North Macedonia: 66 teachers (58.9%) came from mainstream/inclusive schools; 46 teachers (41.1%) came from special schools
- Poland: 30 teachers (33.3%) came from mainstream/inclusive schools; 60 (66.7%) came from special schools.

Table 1: Participants in ASD-EAST training workshops: country and setting

	Mainstream and inclusive schools	Special schools	Total
Croatia	25	32	57
Republic of North Macedonia	66	46	112
Poland	30	60	90
Total	121	138	259

The ASD-EAST workshops were held in Zagreb, Croatia; Skopje, North Macedonia; and Kraków, Poland – but participants came from a broader area than just these three cities. Croatian participants came from across the country, including Zagreb, Đakovo, Koprivnica, Pazin, Zabok, Sisak, Zadar, Split, Osijek, Karlovac, Gospić, Zaprešić, Velika Gorica and Krapinske Toplice. Participants in North Macedonia came from Bitola, Gostivar, Kavadarci, Kumavova, Negatino, Novo Selo, Ohrid, Prilep, Skopje, Strumica, Sveti Nikole, Tetovo, Valandovo and Veles; all areas of the country were covered, and participants included teachers from all special schools in the country. Polish participants came from the greater Kraków region in southern Poland, including rural areas around the city in the Małopolskie province.

Furthermore, the training was provided to teachers from key institutions where pupils on the autism spectrum are educated. For example, teachers from all of North Macedonia's special schools for pupils with severe learning disabilities attended the training. This has ensured that the training will have a broad impact within these countries.

5.1.2. Participants' work settings and roles

Participants came from a range of settings. These included fully inclusive mainstream schools (n = 71, 27.1%), partially inclusive (integrated) mainstream schools (n = 47, 17.9%), specialised autism classes or units in both mainstream schools (n = 16, 6.1%) and special schools (n = 15, 5.7%) and general classes in special schools (n = 79, 30.2%). Over a third of participants were the main teacher in their classroom (n = 94, 35.9%), while 77 (29.4%) were members of an expert team. Forty-one (15.6%) were an assistant teacher for either the whole class or one child, while 38 participants (14.4%) were subject teachers.



5.1.3. Educational information

Almost two thirds of the participants held a master's or higher degree (n = 168, 64.9%). Ninety participants (34.4%) held a bachelor's degree, with just one participant (0.4%) who did not have a degree.

Over three-quarters had studied autism to some extent at university. Twenty-one participants (8.0%) had undertaken 181+ hours, or a whole university programme, on the topic; 42 (16.0%) had undertaken 61-180 hours training at university; 48 (18.3%) had undertaken a single course (15-60 hours) on the topic; while for 87 participants (33.2%) it had been included in other courses. Only 58 respondents (22.1%) had received no training regarding autism at university. About a third of participants (n = 87, 33.6%) had attended further training regarding autism after university: 29 (11.1%) had undertaken longer trainings, of a year's duration or longer, while 37 (14.1%) had undertaken multiple trainings of 1-3 days duration and 21 (8%) had attended just one such training. Almost a quarter (n = 64, 24.4%) had not attended any trainings but had researched the topic themselves.

5.1.4. Experience in autism

Participants in the training had varying levels of experience regarding working with children on the autism spectrum. Twenty-five participants (9.5%) had more than 10 years' experience in the field; 50 (19.1%) had 6-10 years' experience; 115 (43.9%) had 1-5 years' experience; while 37 (14.1%) had less than a year's experience. Twenty participants (7.6%) had no previous experience in the field.

5.2. Benefits of attending ASD-EAST training identified post-training

After attending the ASD-EAST trainings, participants were asked to complete a post-training questionnaire. Responses revealed a **high level of satisfaction** with the ASD-EAST trainings (see Table 2), with over **90%** of participants identifying that:

- the training fulfilled their expectations
- there was the right amount of theoretical information to support the practical strategies they learned about
- they learned methods and strategies that they could use straight away
- they would recommend the training to colleagues.

Just under 90% of participants (n = 212, 87.6%) felt that the topics and methods addressed in the trainings were **relevant to their work settings**.

Participants were highly satisfied by the **skills and expertise** of the ASD-EAST partners who delivered the training in the three countries, with almost 100% of participants feeling that the lecturers supported and understood the teachers' situations, and that there was clear and open communication throughout the workshops.

Table 2. Respondents who strongly agree/agree with these statements about ASD-EAST training

	Number	%
Training fulfilled expectations	224	92.5
Right amount of theoretical information to support practical strategies	229	94.6
Right amount of examples for understanding teaching methods	221	91.3
Topics and methods relevant for my work setting	212	87.6
Some methods I can use right away	219	90.5
Lecturers showed support and understanding for our situation	236	97.5
Lecturers had clear and open communication	238	98.7
I would recommend this training to my colleagues	232	95.9



A key aim of the ASD-EAST training model was to provide training and materials that would be of benefit across both mainstream/inclusive and special education settings. It was identified within the mapping activity that staff working in mainstream reported lower skill levels and confidence than special school teachers.

It was satisfying to note the similarity between the responses of the two sets of teachers (see Table 3) with only a slightly lower percentage of mainstream/inclusive teachers identifying topics as relevant and identifying methods they could use straight away; and particularly pleasing to see that **over 97% of mainstream teachers would recommend the training to colleagues.**

Table 3. Comparison between responses of mainstream/inclusive and special school teachers

	Mainstream /inclusive teachers (n=121)		Special school teachers (n=138)	
	Number	%	Number	%
Training fulfilled expectations	99	92.5	125	92.6
Right amount of theoretical information to support practical strategies	100	93.5	129	95.6
Right amount of examples for understanding teaching methods	98	91.6	123	91.1
Topics and methods relevant for my work setting	92	86.0	120	88.9
Some methods I can use right away	94	87.8	125	92.6
Lecturers showed support and understanding for our situation	104	97.2	132	97.8
Lecturers had clear and open communication	105	98.2	133	99.3
I would recommend this training to my colleagues	104	97.2	128	94.6

5.3. Impact of training identified via follow-up questionnaires

Three months after the workshops, follow-up questionnaires were sent out to the 259 teachers who had participated in the workshops. A total of 139 questionnaires were returned (53.7% response rate). The 139 follow-up respondents comprised 19 Croatian teachers (13.7%), 30 North Macedonian teachers (30.6%) and 90 Polish teachers (64.7%). Forty-nine respondents (35.3%) were from mainstream/inclusive settings and 90 (64.7%) were from special schools. Respondents were asked to identify:

- If they had used any of the strategies that they learned on the ASD-EAST training during the three months since attending training; and if so, which strategies?
- What aspects of the training had been most useful to them?

5.3.1. Strategies used by teachers

In total, just under **85% of teachers had used strategies** that were covered within the ASD-EAST training (n = 117, 84.2%). This comprised all 90 special school teachers (100%) and 27 of their mainstream colleagues (55.1% of mainstream teachers). In the training sessions, participants were introduced to (or reminded of) strategies across all six module topics, as well as strategies to support cooperation and collaborative working. It was particularly pleasing that over half of the mainstream teachers made use of these strategies, as they would have had no exposure to them



prior to ASD-EAST training. Strategies from ASD-EAST training across **all seven areas** had been put into use by **more than 60%** of respondents; with about 70% using ASD-EAST strategies for **managing challenging behaviour**, **supporting communication** and helping pupils to **access learning and the curriculum** (see Table 4).

Table 4. Use of ASD-EAST strategies by all teachers following workshop attendance (n = 139)

Strategies used	No	%
Strategies for managing challenging behaviours	100	71.9
Strategies for supporting communication of children with ASD	97	69.8
Strategies for supporting learning and accessing the curriculum	97	69.8
Strategies for supporting sensory needs	92	66.2
Strategies for supporting social interactions of children with ASD	90	64.7
Strategies for supporting peer relationships	88	63.3
Strategies for cooperation with families and professionals	86	61.9
Strategies for establishing routines and supporting transitions	84	60.4

Table 5. Use of ASD-EAST strategies by teachers following workshop attendance: special school and mainstream/inclusive teachers

Strategies used	Special school teachers (n=90)		Mainstream/inclusive teachers (n=49)	
	No	%	No	%
Strategies for managing challenging behaviours	83	92.2	17	34.7
Strategies for supporting communication of children with ASD	80	88.9	17	34.7
Strategies for supporting learning and accessing the curriculum	79	87.8	18	36.7
Strategies for supporting sensory needs	77	85.6	15	30.6
Strategies for supporting social interactions of children with ASD	79	87.8	11	22.4
Strategies for supporting peer relationships	75	83.3	13	26.5
Strategies for establishing routines and supporting transitions	76	84.4	8	16.3
Strategies for cooperation with families and professionals	72	80.0	14	28.6

Analysis of responses from special school and mainstream/inclusive teachers identified that special school teachers in particular made immediate use of a wide range of strategies learned in ASD-EAST training, with **strategies from all seven areas** being put into practice by **more than 80%** of respondents. In particular, these teachers made great use of strategies for **managing challenging behaviour** (92.2%), strategies for **supporting communication** (88.9%) and strategies to **support learning and access to the curriculum** (87.8%). Fewer strategies were used immediately by



mainstream/inclusive teachers: but still **more than a third** of mainstream/inclusive teachers trained had made use of strategies in these same three areas and were putting them into practice in their classrooms (see Table 5).

5.3.2. Most useful modules

The module on **understanding and managing challenging behaviour** was identified as the **most useful** by all teachers (see Table 6), and by special school and mainstream teachers when data were disaggregated (see Table 7). Importantly for the project, every **module was identified as the most useful by some teachers**. This identified empirically the breadth of teachers' training needs, and that all of the six modules provided valuable information and strategies.

It was also noteworthy that there is no clear correlation between respondents' ranking of usefulness and their application of strategies learned in that module. For example, even though only 7.9% of respondents identified communication as the most useful module, this was one of the most practically used modules, with 69.8% of all teachers – and 88.9% of special school teachers – going on to use strategies learned in their practice. The mapping survey had identified that teachers were often using methods without adequate knowledge and confidence (3.3.v); and it may well be that ASD-EAST training, even in areas where teachers felt they had previous knowledge, supported them to go ahead and use approaches with greater confidence. This was an explicit objective of ASD-EAST, and therefore it is pleasing to see data which suggests that this had taken place.

Table 6. Most useful ASD-EAST modules: all teachers (n=139)

Module	No	%
Challenging behaviour	52	37.4
Modifications and adaptations	25	18.0
Social skills	20	14.4
Sensory needs	17	12.2
Emotional understanding	12	8.6
Communication	11	7.9

Table 7. Most useful ASD-EAST modules: special school and mainstream/inclusive teachers

Module	Special school teachers (n=90)		Mainstream/inclusive teachers (n=49)	
	No	%	No	%
Challenging behaviour	38	42.2	14	28.6
Modifications and adaptations	16	17.8	9	18.4
Social skills	11	12.2	9	18.4
Sensory needs	10	11.1	7	14.3
Emotional understanding	7	7.8	5	10.2
Communication	8	8.9	3	6.1



6. Results – qualitative data collection

6.1. Demographic details regarding interviewees

A self-selecting sample of teachers from each of the seven workshops that were held in Croatia, North Macedonia and Poland participated in semi-structured interviews approximately three months after the ASD-EAST workshops.

In total, 27 teachers were interviewed: seven from Croatia, and 10 each from North Macedonia and Poland; thirteen worked in mainstream/inclusive settings, and 14 in special schools. The sample comprised 13 main class teachers, one assistant teacher, five subject teachers, three special education coordinators and five expert team members. Twenty-one interviewees held higher degrees, while six held bachelor's degrees.

Regarding training regarding autism in their university education, three had received no training, for eight the topic had been included in other courses, 12 had undertaken up to 60 hours training and four had studied the topic for between 61-180 hours. After university, the 10 Polish interviewees had undertaken no further training, while the 17 Croatian and North Macedonian interviewees had all undertaken a number of short courses.

All interviewees were experienced in working with pupils with autism. Seven had between 1-5 years' experience, 10 between 6-10 years' experience, and 10 had more than 10 years' experience.

6.2. Teachers perceptions regarding ASD-EAST training

Teachers were asked their views regarding the ASD-EAST training in a number of areas.

- What were their expectations of ASD-EAST training, and to what extent were these expectations fulfilled?
- What was their overall experience of the training and trainers?
- What did they find most useful or important about the training?
- What, if anything, did they learn that they went on to use in their classrooms; and what difference, if any, had this made to them and/or their pupils?
- Would they recommend the training to others; and whom did they feel would benefit from ASD-EAST training?

Interviewees responses are discussed below.

6.2.1. What were interviewees' expectations of ASD-EAST training, and to what extent were these expectations fulfilled?

Analysis of the quantitative data identified that **92.5% of participants felt that the ASD-EAST training fulfilled their expectations**, and this **positive response** was found also in the qualitative data. Interviewees spoke of seeking, and gaining, *"a greater understanding of certain problems and challenges I face on a daily basis* (special school teacher, North Macedonia)".

Some sought information regarding topic areas such as social skills or emotional regulation. Others spoke gaining knowledge regarding behaviour issues, the sensory issues faced by those with autism, and of how they had learned to communicate more effectively with their pupils as a consequence of attending.

"I apply the helpful advice. When I address a student with autism, I always use sentences that have clear and short commands. It has turned out to be very positive for me (special school teacher, North Macedonia)".



6.2.2. What was their overall experience of the training and trainers?

The quantitative data is very positive in this area, and the qualitative responses again support this positive perspective. Interviewees spoke of their **satisfaction** with the **format** and **content** of the training; and of the pace of the training, with sufficient time for appropriate discussion.

“I liked the content and organization of the workshop, with a large dose of practical tips and a wide range of recommended literature (mainstream teacher, Poland).”

“Participation in the trainings is useful for every professional. Knowledge is expanded, new methods and strategies for work are learned, practices are exchanged, and so on. From the trainings, I particularly remember the practical examples (mainstream teacher, North Macedonia).”

The content of the sessions was new to many, and even where teachers had prior knowledge, it was still seen as helpful, interesting and appropriate.

The quantitative data identified that almost all participants in the workshops felt that the trainers understood the teachers' situations and were excellent communicators, who held people's attention effectively throughout the sessions. The interviewees spoke of the lecturers' **knowledge**, **experience** and **understanding** of autism and of the reality of teaching in the classroom.

“The lecturers were really available to us. They have that real experience, they know how things are in practice and it felt were like one community. It was empowering (mainstream teacher, Croatia).”

The importance of this **personal experience** and **expertise** was reinforced time and again in the interviews.

“I especially liked that the trainers developed the topics by sharing practical examples and personal experiences in working with children with ASD (special school teacher, North Macedonia).”

6.2.3. What did they find most useful or important about the training?

It was pleasing to see that different interviewees identified topics from across the **whole range** of ASD-EAST modules as being most useful. Some found the session on understanding and managing behaviour most useful.

“The challenging behaviour session was the most useful to me. I needed that the most. The topic and the way it was presented was great (special school teacher, Croatia).”

“It was great. Learning about behaviour was especially helpful, because we have such problems with children and we don't know how to solve them (special school teacher, North Macedonia).”

Others spoke of the benefits of sessions on adapting the classroom environment –

“I found the module regarding modification and adaptation of the school environment most useful (mainstream teacher, Poland).”

– on sensory issues –

“Very useful examples of practice on the topic of the senses (special school teacher, North Macedonia).”

– and on emotional regulation –

“I found the session about emotional regulation and social skills most useful. I immediately recognized where I can implement that, that work on socio-emotional skills (mainstream teacher, Croatia).”



– while some spoke generally of the benefits of the whole programme.

"I think that in each part of the presentations there was something new and certain that applied in a given situation and students will be useful to us: gaining new knowledge to regulate sensory skills, sensory and their registration, challenging behaviour, and so on (mainstream teacher, North Macedonia)."

The teachers who participated in interviews were highly experienced but were still well able to identify the **benefits of attendance**.

"After being reminded about useful strategies that I'd forgotten, I feel more confident about working with children with ASD (special school teacher, Poland)."

Furthermore, it was good to see that teachers attending took what they had learned back to their schools and **cascaded the learning** within their staff teams.

"I shared the acquired knowledge with my associates and colleagues with whom I work directly in the same department (special school teacher, North Macedonia)."

6.2.4. What, if anything, did they learn that they went on to use in their classrooms; and what difference, if any, had this made to them and/or their pupils?

An important aspect of the ASD-EAST project was that teachers should not just attend the training, but that they should gain strategies that could be used in the classroom to improve practice and bring about positive change for the children whom they taught. The quantitative data identified that 87% of participants felt that the course content was **relevant to their work settings**, and over 90% of teachers felt they had been given **strategies and tools** that they could use **straight away**. In some cases, teachers were learning new strategies and techniques. In others, teachers were re-introduced to techniques or strategies that they may have stopped using – or were using but with little confidence or understanding. Attendance at the workshops enabled teachers to gain insight into their practice and helped them become more confident in using these strategies. Furthermore, the follow-up questionnaires revealed that teachers made use of strategies from **all** modules and across **all** topics. This was clearly reflected in the qualitative responses. Many teachers identified that they learned valuable information about **structured teaching** approaches and put these into practice in their classrooms.

"I now use visual supports in my daily work with a student with ASD and apply the helpful advice. It has been very positive to me (special school teacher, North Macedonia)."

"We created an individual space for each child and made visual supports for the students for orientation in the wider space of the school (special school teacher, North Macedonia)."

Tools for improving **social understanding**, such as Social Stories (Gray & Garard, 1993), were identified as immediately beneficial to pupils.

"Two of my students had some inappropriate behaviours. One was swearing...I have previously tried various methods, but using a social story made a difference. I was collecting data and it was obvious that the strategy was effective. For the other child we have also used it. He was putting out the lights in the dining room when everyone was eating, and it was a mess. Now he just puts the finger by the switch and stops... (special school teacher, Croatia)."

"My student has behavioural problems. I remembered to make a social story and divert his attention from his unwanted behaviour in a socially acceptable way. The training here helped me a lot. In the past I really didn't know how to act (special school teacher, North Macedonia)."



Other teachers referred to using **communication** tools and strategies covered within the ASD-EAST trainings, to using strategies to support the **emotional regulation** of pupils and becoming more aware of addressing pupils' **sensory sensitivities and needs**. The session on **understanding behaviour and behaviour management** was identified as particularly useful within the follow-up survey; and the **practical** impact of this module was highlighted by interviewees from across all countries.

"I used materials from the challenging behaviour session, and carried out a functional assessment, that was very useful for me (special school teacher, Croatia)".

"I apply behavioral strategies and advise everyone to apply them to all students (mainstream school teacher, North Macedonia)".

"I obtained ideas regarding how to respond to challenging behaviors and strategies to deal with them (mainstream school teacher, Poland)".

It was particularly pleasing that some teachers who attended the training identified that they then cascaded the training, **sharing** what they had learned with their colleagues at school.

"First, I focused on sharing knowledge with colleagues with whom we work in the same classroom. Of course, we constantly observed what we did well, what worked and what didn't work, and based on the analysis of the situation, we introduced adaptations (special school teacher, North Macedonia)".

Teachers interviewed were clearly able to identify the difference that ASD-EAST training had made to their own **practice and confidence**.

"I feel like I gained new knowledge and that I am more competent in working with it, in applying what I've learnt (special school teacher, Croatia)".

"I feel calmer because I know I'm doing the best I can (special school teacher, North Macedonia)".

"After attending the workshop, I feel more confident and have higher self-efficacy. It will help me to deal with professional stress and burn-out (special school teacher, Poland)".

It was also pleasing that teachers were able to identify that **children had benefited** from the teachers' improved practice, and that parents had also reported and identified benefits.

"Since sharing the knowledge at school, the parents of the children themselves notice the positive changes in their children (special school teacher, North Macedonia)".

6.2.5. Would they recommend the training to others; and whom did they feel would benefit from ASD-EAST training?

In the quantitative survey, almost 96% of respondents stated that they would recommend ASD-EAST training to their colleagues. Teachers interviewed similarly stated that they would **recommend the training**, particularly in terms of its **practical applicability**.

"Yes, I would recommend it. Because it is practical and helps to improve the work with children (special school teacher, North Macedonia)".



Furthermore, interviewees also felt that the training would be beneficial for a **range of others** involved with the pupils with whom they worked, parents, school staff more widely, health and social care professionals more widely.

"I would recommend ASD-EAST training to anyone who hasn't been to it, to teachers and special educators and psychologists. Everyone who works with children with autism should attend such training (mainstream school teacher, North Macedonia)".

"It would be good to deliver with new parents. It would also be good to organize training of a similar type with people from the health services (paediatricians, dentists, nurses) and the social and cultural institutions that work with children with ASD (special school teacher, North Macedonia)".

"It would also be good to have a short training for other school staff, such as cleaners, librarians and so on (mainstream teacher, Croatia)".



7. Results of further data collection

7.1. Further data collection methods used

As part of the wider process and outcome evaluation methodology, further data were collected:

- via focus groups with the training teams in Croatia, North Macedonia and Poland – to investigate their perceptions of delivering ASD-EAST training
- via standardised questionnaires at the project's four virtual online stakeholder conferences, gathering quantitative and qualitative data from participants regarding the overall project and the intellectual outputs presented
- via a structured questionnaire completed by project partners – developed from the Erasmus+ Impact+ too – to identify partner, organisational, stakeholder and systemic impact
- via Google analytics – to identify e-newsletter and website reach.

The results of the analyses of this data are presented below.

7.2. Focus groups

Academic partners in Croatia, North Macedonia and Poland held focus groups with the ASD-EAST training teams. Teams identified areas where greater local differentiation would be helpful. Amendments were made to the materials, and trainer notes identified and discussed ways to ensure local appropriateness. Feedback from training teams was extremely positive, both about the materials and the process. Teachers attending the workshops were highly motivated, and trainers felt confident in delivering the materials.

“The training was great. The desire of the participants and the motivation was really good, especially the interest of the special educators from the mainstream schools. Staff from the mainstream schools were asking a lot of questions. The positive energy, interaction and interest was great (Focus group. Republic of North Macedonia)”.

7.3. Data from virtual stakeholder conferences

It was initially planned that four physical conferences would be held – in Skopje (March 2020), Zagreb and Kraków (April 2020) and Brussels (June 2020). Due to the Covid-19 pandemic, it was impossible to hold these physical conferences – the Skopje conference had to be cancelled at less than 24 hours' notice – but partners worked together throughout April and May 2020 to develop materials and presentations to present the project virtually during June 2020.

Four stakeholder conferences were held from 8 June to 3 July 2018, via the project's YouTube channel, in English (Brussels), Croatian (Zagreb), Macedonian (Skopje) and Polish (Kraków). Delegates registered via Eventbrite. The conferences presented information regarding the project overall, the initial mapping study (O1), the curriculum and training materials (O2, O3), the evaluation (O4) and the policy recommendations (O6). Video interviews with teachers who had undertaken training was shared, as was information regarding the local project partners, and resources in the relevant languages. 'Round-table' discussions with policy makers and other stakeholders were also held during the period of the conference.

The physical conferences were planned to have a minimum of 280 delegates (75 each in Zagreb, Skopje and Kraków and 55 in Brussels). The online conferences were attended by 1323 delegates from over 20 countries – Brussels – 135;



Zagreb – 224; Skopje – 455; and Kraków – 499. This high number of participants evidences the effectiveness of the virtual MEs as a dissemination medium and identifies the high level of interest in the project topic and materials. Feedback from conference delegates was highly encouraging. Evaluation forms were completed by 344 delegates (26%). Responses were extremely positive, with an overwhelming majority being extremely positive regarding the project and its materials. It was particularly pleasing that 98% of delegates felt that the materials were relevant and appropriate, and that the same percentage felt that they would be transferable to other countries within the EU (see Table 7).

Table 7. Conference delegates who either agreed or strongly agreed with the statements in the evaluation questionnaire.

Statement	Brussels (n=22)		Skopje (n=119)		Kraków (n=123)		Zagreb (n=80)		Total (n=344)	
	n	%	n	%	n	%	n	%	n	%
The overall objectives of the project are clear.	22	100	118	99	122	99	79	99	341	99
The project will empower teachers to support the inclusion of children with autism in education.	21	95	116	97	119	97	80	100	336	98
ASD-EAST training will provide teachers with accurate knowledge and information about autism	21	95	117	98	120	98	80	100	338	98
ASD-EAST training will provide teachers with practical skills and strategies for their classrooms.	20	91	117	98	119	97	80	100	336	98
The mapping report identified teachers' training needs.	21	95	119	100	118	96	80	100	338	98
The ASD-EAST curriculum and materials are relevant and appropriate.	22	100	118	99	117	95	79	99	336	98
The ASD-EAST curriculum and materials are useful for mainstream and special school settings.	21	95	119	100	119	97	79	99	338	98
The ASD-EAST curriculum and materials are transferable and relevant to other EU countries.	21	95	117	98	120	98	79	99	337	98
The programme evaluation has robustly evaluated the trainings.	20	91	118	99	120	98	79	99	337	98
Project materials will help teachers feel more confident.	22	100	112	94	121	98	79	99	334	97
The mapping report supported the development of the curriculum and training materials.	20	91	118	99	121	98	79	99	334	97
The ASD-EAST curriculum and materials are innovative.	22	100	116	97	115	93	73	91	326	95



Quantitative feedback regarding the conferences was equally positive, and the practical nature of the materials was identified as a particular strength. The following feedback was left by professional from the UK.

"I just wanted to say that I've just gone through the conference again and feel I've learnt a great deal more about research, training and practice - so thank you.

It's a really polished and accessible format and only the useful information is included so was 100% engaged all the way through.

It got me thinking about all the different ASD training I have undertaken – and delivered. The thing that strikes me is that they were all quite different and often skirted over the practical aspects. Sometimes you'd get a big input on 'what is autism' or 'how to spot a child with autism' and then the time would run out and they'd skip through the last 30 slides on strategies in 10 minutes at the end! The comprehensive 6 module training of ASD EAST appears to encompass all the most important understanding and approaches in one place, emphasising the practical strategies. I love the fact that the focus is on simple, logical strategies supported by understanding the individual and they're not high cost. I went to the schools and academies show in Birmingham last year and hated the cut throat business aspect and the cost of some of the educational software which in my opinion was just a bit of tech for tech's sake.

Anyway, massive congratulations on the two years + of the project and I hope it will be extended to other countries around the globe."

7.4. Results of Impact+ questionnaire

During the final transnational meeting in June 2020, 17 partners working on the project completed a questionnaire to identify impact, developed from the Erasmus+ Impact+ tool. This had been used by the University of Northampton to measure impact in a previous KA2 project (Bramble & Preece, 2020). The results of this survey are identified below.

7.4.1. Addressing Erasmus+ priorities

Partners in the project felt strongly that the project had high impact in two of the priority areas identified in the proposal: the development of relevant and high-quality skills and competences (n=17, 100%) and promoting the acquisition of skills and competences in school education (n=15, 88.2%). Supporting evidence for these opinions drew on both the evaluation and trainers' experiences.

Based on the evaluation questionnaires and informal feedback from trainers, teachers were happy with the training, they learned new things. I think that we really listened to what we learned from the mapping exercise and matched their needs.

Early feedback from trials of the training programme indicate the high value participants place on the training. Many have highlighted that they feel more capable and skilled to deal with their students who have autism.

The third Erasmus priority addressed by the project was social inclusion. Over 70% of partners felt the project had high impact in this area (n=12, 70.6%) while four (23.5%) identified medium impact. Partners identified the links between educational and social inclusion and identified how the project could have both a direct and indirect impact in this area, highlighting the innovative nature of work in this area.

One of the training modules highlights the importance of social inclusion for pupils with autism. This may have been a new area to explore for many teaching staff on the training, as in some countries, social skills lie outside the remit of traditional education.



The meaning of social inclusion in our country is often mixed with educational inclusion. Therefore, in order to clarify things, we have to equip teachers and staff in schools with the necessary tools, skills, approaches and strategies to provide optimal inclusive settings.

7.4.2. Impact on partner organisations

Participation within the ASD-EAST project was felt to have strongly impacted upon participating organisations, with over 80% (n=14, 82.3%) identifying high impact and the remaining three (17.5%) identifying medium impact. Areas of impact include reputational enhancement –

This is the first major project that the organization has, and it has gained authority, confidence in quality and achievement of one of the goals of the organization.

For Special School Dr Zlatan Sremec this partnership has made a tremendous impact upon gaining an opportunity to establish the school as an example of good practice in the community and encouraging other organizations to follow.

– the development of skills and changed perspectives within the organisations –

Participation in the project affected the thinking of some employees and their openness to participate in various projects.

– and the development of further projects.

Participation in the project has led to close collaboration on other projects, such as facilitating visits from educational colleagues from North Macedonia and Croatia to specialist educational establishments in Northampton. This has led to greater sharing of expertise amongst all of the participants and we have received very positive feedback from our participating schools in Northampton. These projects would not have come to fruition were it not for the collaborative relationship that we established with partners through ASD-EAST.

Further European Union partnerships and projects involving project partners are:

- 2020-1-ES01-KA204-081768: *Labour Market Inclusion for People with Autism – LINCA*. The objective of the project is to promote the employment of autistic people without a learning disabilities, as well as inclusive neurodiverse workplaces. ASD-EAST partner(s) involved: Autism-Europe, Autism Macedonia Blue Firefly plus two further organisations from Spain and the UK.
- 2020-1-DK01-KA201-075054: *The "A" class: integrating and supporting students with autism in the mainstream classroom*. This project will support teachers to use teaching approaches based on Applied Behaviour Analysis) to support children with autism integrated in the mainstream classroom. The project includes the Centar za Autizam and Autism Macedonia Blue Firefly as well as partners from Lithuania, Spain, the Czech Republic, Italy and Cyprus.
- 2019-1-RS01-KA201-000835: *It is OK!* This project will train teachers to use social scripts with children with autism. It involves the Centar za Autizam along with partners from Serbia and Bulgaria.
- 2020-1-RO01-KA204-079951. *Positive Parenting [P+]* This project is developing an autism parent training to address children's problem behaviour and teach them socially important skills using ABA techniques. It involves Autism Macedonia Blue Firefly along with partners from Romania, the Czech Republic, Italy, Cyprus and Spain.



- Erasmus mobility activities involving schoolteachers from North Macedonia visiting specialist services in the UK the UK have also been developed with support from Target Autism, Special School Zlatan Sremec and Autism Macedonia Blue Firefly.

Twelve partners (70.6%) identified that their organisations had developed new partnerships or services as a result of the project. Over 88% (n=15, 88.2%) identified changes that had taken place within their organisations as a result of participation. One school reported that internal education within the school had taken place as a direct result of the development of ASD-EAST materials (which in turn led to the development of a further project).

There has been an internal education in my organization about second module – Developing the emotional regulation, new working materials were made and distributed to my colleagues, many of them were very interested in applying new skills in their everyday work. Also, my organization applied for a new Erasmus project related to Developing social and emotional skills in children with ASD together with partner school from Slovenia.

7.4.3. Impact on individual partners

Fifteen partners (88.2%) felt that participation in ASD-EAST had resulted in a high impact upon themselves, with 14 (82.3%) identifying high impact upon their professional development. Areas of impact included improved learning new skills, increased competence and confidence (particularly with regard to skills as a trainer and digital competencies), project work and management skills, greater cultural awareness and improved English.

I improved my skills in independent research, working on qualitative and quantitative data, writing reports, creating modules and English, especially improving my writing.

Working in this particular partnership has helped me to develop my competencies in project management, get a deeper insight of educational system in partner countries, improve my abilities as a trainer, and develop my communicational and language skills.

Partners also identified how their understanding of inclusion and education developed as a result of participation.

I had opportunities to observe and experience inclusive practice across a range of European settings; opportunities to understand specific aspects of inclusion and disability in the other project countries. I particularly felt that I learned a great deal about special education in Poland. I found the set-up at School No. 12 in Kraków to be a real revelation, and I was impressed with the radically different approach to special education undertaken in this school. I have discussed the model and its successful, inclusive features with many of my colleagues back home.

7.4.4. Impact on target group (specialist teachers)

Fifteen partners (88.2%) felt the project had a high impact on the specialist teachers who were its target group. It was believed that the materials and training would improve their competence and confidence, and the evaluation data and feedback from teachers were identified as corroborating sources.

Teachers in special schools – they renewed their university background if they had any or built new fundamentals (theory and practice) if they were not delivered on any university course during their special education studies. Teachers in mainstream/inclusive school – they opened their minds for ASD and got a background for starting to work with children with ASD. They also got special practical background to support any child with learning disorders or any other special needs.



Hopefully, the teachers felt that they are good teachers and that they know a lot already. And if difficult situations happen, which they will, they can ask for help, they can get training, they can support each other. The role of the project was to create the 'safe' base, a pool of effective strategies. It was crucial that teachers were not just told to follow some materials. They were not overwhelmed with too much information, too many methods, but rather they were encouraged to develop and keep developing their skills without disregarding what they already know and use. And acknowledging that it is OK not to know sometimes.

7.4.5. Wider impact of the project

The numbers of partners who felt the project had high impact in this area was smaller (n=47.1%), though in total 13 participants (76.5%) felt the project had medium or high impact. Barriers to impact identified included systemic issues, as well as other competing demands and lack of finance.

Unfortunately, in Croatia, the process of changing policies is very slow and depends on persons in charge, and not on quality of initiatives and evidence.

The legislative process is very obstructive and slow to make flexible changes. The voice of teacher was not and is not important for policy makers.

Despite this, the positive impact of the project was identified which will be important in ensuring the ongoing use and exploitation of the project outputs.

The way we look at autism is changing. The level of education is improving. Higher standards are set in the quality of the approach to this issue. In a country where there is no such education for the development of skills on any faculty for this issue, this project means a lot!

Autism Europe will make full use of the project results and disseminate them widely across Europe to its members and other stakeholders to advocate for systematic training.

The project demonstrates the need and added value to provide training in autism to teachers. We would like to see legal and policy changes to ensure systematic training on autism for education professionals across Europe. These trainings should be evidence-based and practical in nature. ASD-EAST is an important pilot and we hope it can be replicated.

7.5. Wider evaluation

Data were also collected with regard all aspects of the project, to evaluate its indirect reach and the effectiveness of its dissemination strategy. Findings regarding these aspects of the project are discussed within this section.

7.5.1 Indirect reach

As well as its direct reach to those teachers who participated within the workshops, the project has already achieved significant indirect reach. Participants on the workshops came from a total of 29 special schools and 59 mainstream schools within the three countries. In total, 88 schools, 3,867 teachers and 38,861 children will have been indirectly impacted by the project (see Table 8). Further indirect impact will continue to be achieved as ASD-EAST materials will be used within the curricula of academic partners as course materials for the special education and mainstream teaching students that they train within Croatia and Poland. ASD-EAST materials will also continue to be used to provide continuing professional development to teachers in schools and allied professionals in Croatia, North Macedonia, Poland and the UK. Partners from Croatia, North Macedonia and Poland are also involved in a number of further European projects regarding autism and education, and will make use of ASD-EAST materials within these as appropriate.



Table 8 Indirect reach of ASD-EAST project teacher training workshops

ASD-EAST training workshop	Special system			Mainstream system		
	Schools	Teachers	Children	Schools	Teachers	Children
Croatia	20	363	1039	19	944	9172
Republic of North Macedonia:	4	160	400	35	1750	25000
Poland	5	250	750	5	400	2500
Total	29	773	2189	59	3094	36672

7.5.2 Website and other dissemination tools

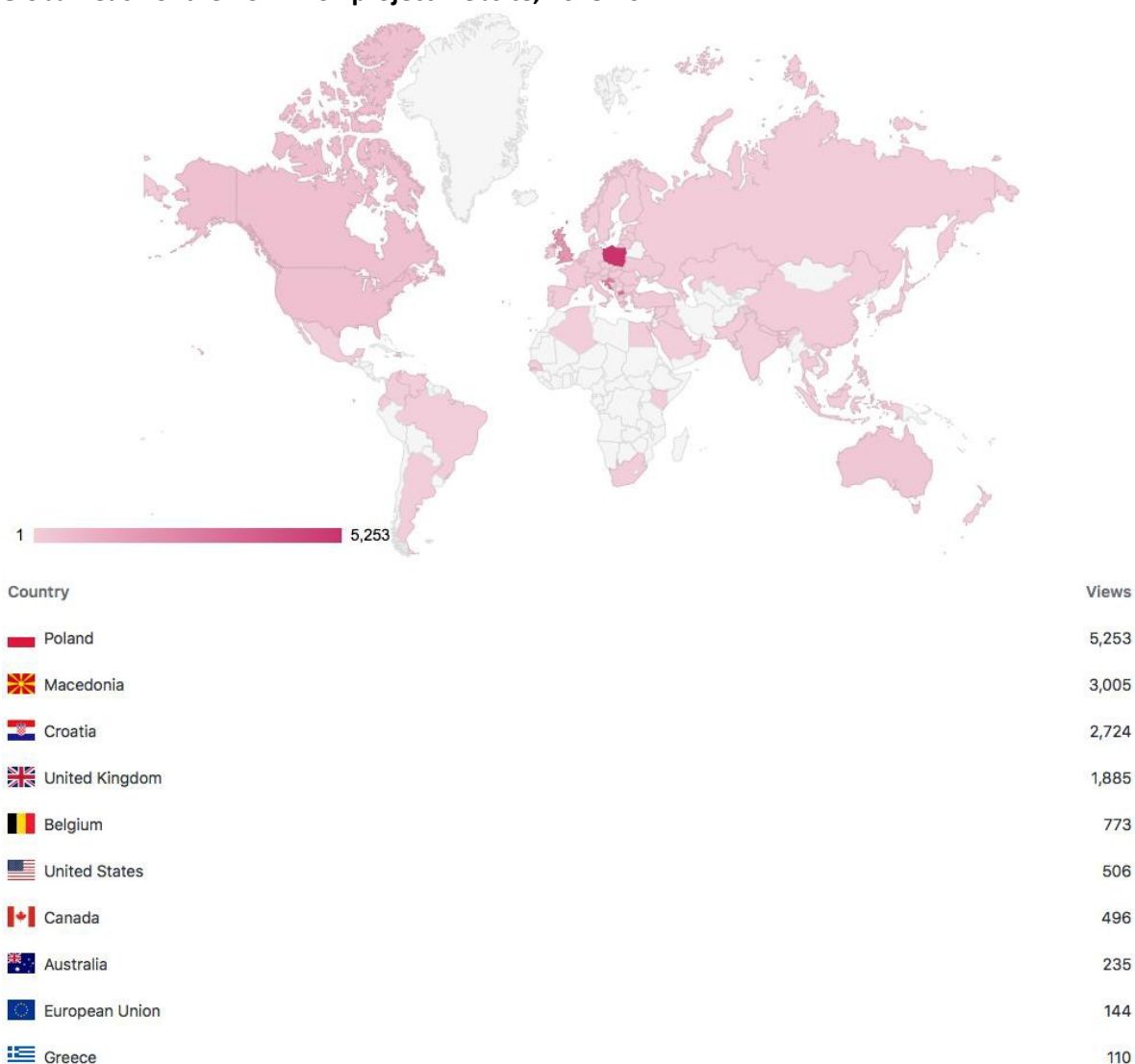
A dedicated website was created for the project and launched in February 2019. The official language of the website was English, though key information was also provided in Croatian, French, Macedonian and Polish. The website was designed and managed by the University of Northampton and Autism-Europe, with support from the partnership with regard to content. The website was regularly updated throughout the project lifespan, the tangible deliverables will be free and accessible to the public and it has been ensured that the project's results will remain available for use by others for a further five years. To support the development and analyse the traffic, Jetpack was used. By 31th August 2020, the website had more than 5,000 different visitors and 16,935 views from 81 countries around the world. The top 5 countries which accessed the website most frequently include Poland, Macedonia, Croatia, the United Kingdom and Belgium. Most-viewed pages related to project information, the online multiplier events and project archives. Figure 1 shows the global reach of the project website.

The project produced an e-newsletter, six editions of which were sent to subscribers. In total, 1,837 individuals subscribed to the newsletter. Subscribers included teachers, professionals, autistic people and their families, NGOs, academics, and policy-makers. The project team also made use of a range of other social media tools to share information about the project.

- The project's Facebook page received 233 likes and had 244 followers. On average, a typical post reached or was seen by 556 people. YouTube as another means of engagement. The ASD-EAST final conferences included pre-recorded videos which were added to our YouTube account and shared with attendees via the conference pages. The highest viewed video, "ASD-EAST International: Introduction to the project", received 375 views.
- The project's ResearchGate page has had 135 reads from academics within Europe and the USA. This platform has served as a way of sharing information within the academic community.
- The project has also disseminated information via Twitter



Figure 1. Global reach of the ASD-EAST project website, 2018-20



In addition to presentations at the project's own online conferences (7.3), presentations have been given at a number of other academic and professional conferences. These include:

- International Scientific Conference: Focus on Autism. Pedagogical University Kraków, 27-29 September 2018 (300 attendees)
- '70 Years: Organized Education, Rehabilitation and Employment of People with Disability in the Republic of North Macedonia'. Conference organised by the Union of Special Educators and Rehabilitators of the Republic of North Macedonia. 16-18 May 2019, Bitola, Republic of North Macedonia.
- University of Northampton Annual Research Conference, 20 June 2019 (100 attendees)
- 12th International Autism Europe Congress, Nice, 13-15 September 2019 (2,200 attendees)
- ICAES Conference, St Petersburg, Russia, 9-10 Oct 2019.
- Research in Practice seminar, University of Birmingham, UK, 5 February 2020 (30 attendees)



- University of Roehampton, London, 12 February 2020 (10 attendees)
- International Week: Innovation in Humanities and Social Sciences. University of Ss Cyril & Methodius, Skopje, Republic of North Macedonia, 19-21 February 2020 (.
- University of Northampton Annual Research Conference, 12 June 2020.
- University of Northampton Learning and Teaching Conference, 16 June 2020.
- 100 Jubilee of Faculty of Philosophy, University of Ss Cyril & Methodius, Republic of North Macedonia, Struga, Republic of North Macedonia, 2-5 September 2020.

7.5.3 Summary of wider evaluation

Overall the activities undertaken, and the breadth and reach of these activities, demonstrates the commitment of the project team to put its Dissemination Plan into practice and to engage with the stakeholder audiences identified within the proposal:

- specialist teachers
- other education professionals
- policy/decision-makers
- autism/disability community
- the wider public.

The number of stakeholders reached evidences the success of its strategies.

These are positive findings that show how the project team has worked to carry out the project in line with the proposal.



8. Conclusions and key messages

The ASD-EAST project has been **extremely successful** and has successfully delivered the intellectual outputs and outcomes identified within the proposal.

It developed a **high-quality curriculum and materials** based on teachers' identified training needs.

It has delivered training to 259 specialist teachers in Croatia, the Republic of North Macedonia and Poland: this is **more than double** the number of teachers initially identified within the proposal.

Teachers have been **overwhelmingly positive** regarding the curriculum and materials: participation in ASD-EAST training has **improved** their **knowledge** and **confidence**, and they identify the **value** of such training for teachers, other professionals and parents alike.

As a result of undertaking this project we recommend that:

- Appropriate Initial Training, Continuing Professional Development and support for teachers should be provided across Europe
- It should be ensured that accurate understanding of autism and individualisation of learning and teaching are central to training provided
- Training should be designed to ensure a holistic approach, and to provide teachers with the skills to work effectively with families and other professionals.

These recommendations are developed further within the ASD-EAST Policy Recommendations (O6) which have been shared along with other outputs at our four extremely successful stakeholder conferences.



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